

JPRS-TTP-90-015  
2 NOVEMBER 1990



FOREIGN  
BROADCAST  
INFORMATION  
SERVICE

# ***JPRS Report***

## **Telecommunications**

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# Telecommunications

JPRS-TTP-90-015

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2 November 1990

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## INTER-AFRICAN AFFAIRS

### Burkina Faso Minister Signs Cooperation Protocol With Libya

AB3009115090 Ouagadougou Domestic Service in French 1900 GMT 28 Sep 90

[Text] At the invitation of the Libyan authorities, Comrade Beatrice Damiba, minister of information and culture, paid a friendly working visit to Libya from 20 to 27 September at the head of a delegation from her ministry. Talks with Dr. Rajab Miftah Abu Dabbus, her Libyan information and culture counterpart, led to the signing of a protocol of understanding for cooperation in communication and culture on 24 September. According to this protocol covering 1990-1992, relations between their countries in communication and culture will undergo significant developments, notably with the exchange of radio and television programs, artistic groups, experiences, and training.

At the sidelines of the deliberations, Comrade Beatrice Damiba had a program of visits and useful meetings which, among other things, brought her to the Tripoli ultramodern information center, the Mataba Headquarters, and the Radio and Television Service Headquarters in Tripoli. The delegation also visited Misratah, 200 km from Tripoli, then Banghazi, 20 km away, and Bayda where it was able to visit the metallurgical factory, the permanent industrial fair, the (Muntayzat) agricultural region, and the Cirenaica Greek-Roman ruins. These ruins, which honor the memory and ingenuousness of the men of this era, constitute a historical site which can justify the interest given to the conservation of the site and monuments.

After signing the protocol of understanding, technical missions of the press and culture sectors will begin implementing the decisions reached under the protocol. Already, a first phase of implementation has started with the exchange of television programs between the two sides. Very soon a joint technical committee for implementing radio programs will be set up.

Both sides considered the visit satisfactory in strengthening the relations of friendship and active cooperation between Libya and Burkina Faso.

## KENYA

### Kenya To Install Microwave Network

90AN0414 Chichester TELEFACTS in English Jul 90 pp 2-3

[Article: "Kenya and GPT in Major New Agreements"]

[Text] Kenya is to install a microwave radio network and begin local manufacture of payphones following two contracts awarded by Kenya Posts and Telecommunications Corporation (KPTC) to GPT.

GPT Network Systems Group will provide a backbone network of microwave radio systems from the border with Tanzania along the Kenyan coast from Kwale on the Tanzanian border to Mukowe (Lamu) near the border with Somalia to Nairobi, via Lamu, Garsen and Garissa. It will be linked with the Nairobi-Mombasa microwave system currently being installed by GPT following a contract from KPTC last year.

Work will also start on a 10-year scheme to provide and locally manufacture GPT prepay card payphones in Kenya for installation in the urban and rural areas of the country.

The signings mark the latest success for GPT in Kenya, where orders have already been placed for the whole range of GPT switching, transmission, and terminal line of products.

The loop microwave system will considerably upgrade the Kenyan network. The coastal route will provide digital capability into the main tourist areas, replacing existing 960 channel analogue equipment. It is considered strategically important—not only due to the high proportion of international traffic and the very important tourist industry it will handle—but also because of the links with Tanzania.

The second part of the route—to Nairobi via Garissa and Garsen—will also be important in providing the main centres of population in this area with high quality digital circuits together with an alternative route for traffic between Mombasa and Nairobi.

## NIGERIA

### Babangida Commissions Abuja Telephone, Telex Exchanges

AB2909082090 Lagos Domestic Service in English 1800 GMT 28 Sep 90

[Text] The Federal Government has embarked on a comprehensive program to provide improved and efficient telecommunications facilities to rural communities, especially the local government headquarters. As part of this scheme, an additional 374 lines are to be provided between now and 1992. President Ibrahim Babangida stated this today while commissioning the Abuja Digital Telephone and Telex Exchanges. He said that the Federal Government had always accorded top priority to the telecommunications sector because of its role as a catalyst for economic development. General Babangida disclosed that in the five years of his administration, 112 new telephone exchanges have been installed in parts of the country at the cost of about 140 million naira.

## SOUTH AFRICA

### Full Satellite TV Coverage Planned

90WT0152B Johannesburg *FINANCIAL MAIL*  
in English 17 Aug 90 p 44

[Text] A senior sales manager of British Aerospace dropped off a satellite shopping list at Auckland Park last week. The high-level visit by executive Peter Collins is said to have the official blessing of 10 Downing Street. It's apparently the first step by the SABC [South African Broadcasting Corporation] to fulfil board chairman Christo Viljoen's dream of getting our own satellite.

In his 1989 report to parliament, Viljoen, a Stellenbosch engineering professor, said: "In Europe, viewers are being inundated with new TV services. Many of these services are broadcast directly to viewers via satellite... We are hoping to achieve 100 percent TV coverage by means of satellite technology within the next 2 or 3 years."

Viljoen states that the cost of extending the present TV network to 95 percent of the population is estimated at 5 times existing expenditure on distribution, which in 1989 was more than R600m. A satellite service is certainly cheaper at about R700m—but only an additional 145,000 households will be reached through satellite signal.

In any case, figures from Eskom indicate that, of the 38m population at least 20m are still without electricity. A further R400m will be required over the next 10 years to make electricity available to all.

Experts also point out that all the estimated 3.3m TV sets in SA now would have to be modified to receive the satellite signal, at between R2,300 and R4,000 per set. That tab the viewers would have to pick up, which surely makes the satellite a pipe dream.

Viljoen's ambitious plans for the SABC's move into orbit are not supported by local and international experts. A senior Post Office electrical engineer, Danie Malan, has said there is no economic nor technological justification for the introduction of a domestic satellite system for southern Africa. "If in the absence of a domestic satellite system, there are some clients who need a satellite service, we will be prepared to provide such a service using Intelsat facilities," he added.

Telecommunications satellites are always custom-made, according to Malan. "There is much glib sales talk by hopeful local agents, but few hard facts." At today's prices, it is estimated that a medium-size satellite would cost about US\$70m. A backup satellite is essential, say experts contacted by the FM; they estimate the total package at \$165m-\$125m.

According to Malan's 1988 facts, the contract price to deliver the Palapa-82 satellite to Indonesia in orbit totalled \$90m. The loss suffered when the Bundespost

Direct Broadcast Satellite was rendered useless because the solar panels would not deploy properly amounted to \$150m, said Malan.

According to the FM's sources, Peter Collins also called at the offices of SABC's prime competitor, M-Net. However, M-Net's Cobus Stofberg, when asked to comment, said: "We have investigated the possibilities of satellites but have made no decisions yet. Due to the enormous costs and M-Net's responsibilities to its shareholders, we approach such matters with care."

SABC deputy director general Neels Smuts has confirmed Collins' visit. He says the SABC has not yet decided whether to opt for its own satellite or rented space on an existing satellite. A final decision will not be taken before the end of the year. Smuts put the costs of usage at R10m per channel annually: outside experts question his figures, which they say can apply only to renting a satellite.

How will Viljoen's dream be financed if he and the SABC go ahead with their plans? Smuts says the costs would have to be absorbed by the SABC. Distribution costs of SABC programmes are less than 10 percent of total costs—but the costs of satellites would increase this dramatically. International research shows that, over a 7-year lifespan of a satellite, annual costs are at least R100m.

Last year, the SABC's annual report stated that the corporation's R26m surplus was "inadequate to meet the cash flow requirements of capital and operational assets in the next few years." The recent increase in the licence fee relates to normal costs, inflation and a financial backlog—it will be used to increase the local content of programmes and maintain programming in different languages, says Smuts.

In short, it seems the SABC cannot afford to fulfil the First-World dreams of its chairman. Will he still pursue the project?

### Undersea Cable Link to Spain Planned

90WT0152A Johannesburg *ENGINEERING NEWS*  
in English 17-23 Aug 90 pp 1-2

[Article by Brian Schmidt: "SA's Sea Link"]

[Text] South Africa will soon be spending R500-million on installing a new 9,500 km undersea communication cable with 82 submerged repeaters, which will extend between Melkbosstrand, the Canary Islands and Madeira, linking South Africa with other systems in the northern hemisphere.

The cable will link up with the Spanish mainland cables Pencan-4 and Pencan-5.

Another branch will extend to Madeira where it will be linked to the Eurafrica cable.

Only five companies world-wide—STC Submarine Systems of the UK, Submarcom from France, the American AT&T, Fujitsu and NEC of Japan—have the track records to carry out a project of such complexity.

The contract—which was opened for tender on 1 July and closes on 1 October—will be awarded by a procurement group, chaired by Des Smith of South African Posts and Telecommunications (SAPT).

The group operates on behalf of the co-owners of the cable including SAPT and a number of foreign telecommunications administrations.

The seabed survey contract, which has begun in Madeira with the M/S Jean Charcot and should be completed by the end of this month, was won by South Africa's Pentow Marine and LD Canocean of France.

Pentow Marine will undertake the shallow water survey up to a maximum depth of 1,000 m.

The survey of between 1,000 and 6,500 m will be carried out by LD Canocean.

"We will take over from the French on 4 September, some 50 miles from Melkbosstrand and we should be finished within 18 days," says GM of Pentow Marine Dai Davis.

Dawie Malan, South African Post and Telecommunications special projects' adviser, says that the new 25 mm-thick optic-fibre cable SAT-2, which will replace the existing co-axial cable from Melkbosstrand to Sessimbra in Portugal, will have a capacity of 7,680 speech channels, compared with the 360 of the current SAT-1 cable.

It is expected to meet South Africa's telecommunication needs for the next 20 to 25 years.

Moreover, it will provide clients with the high-quality service required by the modern business community, technology which is already available in most industrial countries.

"SAT-1 had a life expectancy of 20 years and has been in operation since 1969.

"It is approaching the end of its useful life after 21 years of successful operation.

"At the moment, we need 1,600 overseas channels.

"Due to the limited capacity of SAT-1, South Africa uses satellite communication to a large extent.

"However, all countries desire diversity and it is necessary to have alternative communications links with other countries, which prevents the disruption of service in the case of a temporary failure of one route.

"If South Africa is planning to be a prominent industrial nation, we will need a reliable, high-quality communication link.

"There are other reasons why we cannot rely totally on satellite communication.

"The optic-fibre cable is more stable, has a greater capacity and has a much less propagation delay than in the case of the satellite," says Malan.

Different from SAT-1, this cable will be buried in the shallow water portion of the seabed in order to prevent damage by ships' nets and anchors.

It will also not go through Ascension Island and the Cape Verde Islands.

**New Broadcasting Station Goes on Air in Shanghai**

OW2609064090 Shanghai City Service in Mandarin  
1000 GMT 25 Sep 90

[From the "News and Weather" program]

[Text] The newly built Shanghai Municipal Radio and Television Bureau's (Qiqiao) Broadcasting Station went on the air today. It is one of the Shanghai Municipal Government's projects for 1990. From now on, all five sets of the station's medium-wave programming will be transmitted over microwave, instead of via conventional cables.

The (Qiqiao) Broadcasting Station is located in (Chenghang) Township, Shanghai County. Construction began in July 1987. A total of 13.67 million yuan was invested in the project. Covering an area of 191.45 mu, the station is composed of seven departments, including a transmission equipment room and antenna grounds. Its transmission equipment is reliable and technologically advanced. In fact, the equipment meets the most advanced standards of the 1980's. The station can simultaneously transmit multiplex [duo lu], single-channel radio signals, singlex [dan lu], two-channel stereo radio signals, and quadruplex [si lu] facsimile signals. Because the signals will be transmitted over microwave, the cross talk [chuan yin] and ringing sounds typical of past cable transmissions will be eliminated. This will improve broadcasting quality.

Liu Zhenyuan, vice mayor of Shanghai, and Liu Wenzhong, deputy secretary general of the municipal government, cut the ribbon at the inaugural ceremony. Sun Gang and Xu Junxi, deputy directors of the municipal party committee's propaganda department, attended the ceremony.

**Cable Television Gains Popularity in China**

OW3009121290 Beijing XINHUA Domestic Service  
in Chinese 0030 GMT 29 Sep 90

[By reporter Mou Weixu (2485 3664 4580)]

[Text] Nanjing, 29 Sep (XINHUA)—With the popularization of television and advances in television-relay technology, cable television quietly has been gaining popularity in China.

Cable television is developing at an astonishing speed in medium and small cities in southern China. Citywide cable television service is now available in Guangdong's Foshan and Maoming, Fujian's Quanzhou, Hubei's Shashi, Hunan's Hengyang, and Zhejiang's Jinhua. Tens of thousands of families in these cities have become cable television viewers. Preparations for introducing this new service are well under way in such large- and medium-sized cities as Beijing, Shanghai, Fuzhou, Changsha, Nanjing, Suzhou, Wuxi, and Changzhou.

Generally speaking, an urban viewer is able to receive different programs broadcast or relayed on six to seven channels. Television programming transmitted by radio technology such as microwave covers a large area and reaches a wide audience. However, such programming is more or less aimed at the general audience. Cable television, which transmits television signals from a television station to a viewer's set through cables and optical fibers, can produce better reception. Moreover, it is capable of transmitting a huge amount of assorted programming at low cost. The Nanjing Cable Television system under construction will initially have 24 channels, of which 11 channels will be used to transmit closed-circuit programs converted from programs transmitted wirelessly. City residents who want access to a wider variety of television programs with better reception can become subscribers for a 140-yuan installation fee and a monthly fee of 5 yuan.

## INTER-ASIAN AFFAIRS

### ASEAN Plans Optical Fibre Cable Telecom Network

*BK2609004290 Hong Kong AFP in English 1430 GMT 25 Sep 90*

[Text] Singapore, Sept 25 (AFP)—Member states of the Association of Southeast Asian Nations (ASEAN) will be brought closer together as a result of the signing here Tuesday of agreements for an optical fibre cable network.

The agreements on construction and maintenance of the first three links of the network linking Brunei, Malaysia, the Philippines and Singapore were signed by ASEAN chiefs of telecommunications authorities and signatories from other countries including Australia, Britain, Canada, Japan and the United States.

"It will certainly draw the ASEAN partners closer together, not only economically but also socially and culturally," Wong Hung Khim, Singapore Telecom president and chief executive, said at the signing ceremony.

He said that this optical fibre cable project "is significant as it spells the possibility of introducing a range of new services for our customers while good telecommunications facilities have always been an essential ingredient for economic growth."

Mr. Wong told his guests the Kuantan-Kota Kinabalu system spanning east and west Malaysia would be commissioned in December while the Brunei-Singapore cable would be ready for service by the end of 1991.

The Brunei-Malaysia-Philippines cable was expected to be ready in the first quarter of 1992 as it was "however slightly more complex", Mr. Wong added.

The cost of the three systems with a total length of about 4,550 kilometres is estimated at 200 million U.S. dollars, Mr. Wong said.

The three systems are part of an entire network costing 320 million U.S. dollars that will be completed by 1995.

The entire network will also link Singapore with Kuantan in west Malaysia, Jakarta in Indonesia and Phetchaburi in southern Thailand.

Mr. Wong said that Singapore Telecom planned to invest another 250 million U.S. dollars in other optical fibre submarine cable systems over the next five years to take advantage of booming economic activities in the region.

He highlighted a recent magazine report quoting an American analyst who estimated that by 1996 world investment in optical fibre submarine cables would exceed 11 billion U.S. dollars with more than half of this in the Asia-Pacific region.

### Japan, N. Korea To Modernize Telecommunications Links

*OW0110104890 Tokyo KYODO in English 0802 GMT 1 Oct 90*

[For related report, see JPRS-TTP-90-013, 28 Sep 90 p 7]

[Text] Tokyo, Oct 1 (KYODO)—North Korea and Japan have agreed to set up direct satellite telecommunications links, the Ministry of Post and Telecommunications said Monday.

Tetsuo Morimoto, director general of the ministry's Telecommunications Bureau, told reporters that Kokusai Denshin Denwa Corp. (KDD) concluded the agreement with the North Korean Post and Telecommunications Ministry.

The agreement, based on the joint declaration concluded last week in Pyongyang between a Japanese parliamentarian delegation and the North Korean ruling party, calls for the opening of 14 communications circuits between Japan and North Korea via an intelsat satellite over the Indian Ocean.

Three circuits will be used for telephone service, 10 for telex, and one for telegrams, Morimoto said.

He said the ministry hopes the circuits will be operational before the end this year.

Morimoto said television broadcasters may also use the satellite circuits under the agreement.

Communications between the two countries are currently transmitted by shortwave radio.

The two sides will continue talks on future expansion of satellite links and will decide when to end the current radio communications, Morimoto said.

## THAILAND

### Chiang Mai Satellite Station Under Consideration

*90WT0151A Bangkok NAEON in Thai 17 Aug 90 pp 5, 16*

[Excerpt] [passage omitted] In an interview on 16 August, Mr. Sombat Uthaisang, the director-general of the Post and Telegraph Department, said that a committee has been established to consider the request by the Loxly and Hat Chin San companies of Hong Kong to build a satellite relay station in Chiang Mai Province in order to relay television signals from the United States and Europe to various Asian countries using the Asia Sat satellite. The committee is headed by Mr. Setthaphon Khusipphithak, the deputy director-general for technology.

Mr. Sombat said that the Loxly and Hat Chin San companies have also submitted this proposal to the Radio and Television Administrative Committee. Thus,

the Post and Telegraph Department must consider this proposal in coordination with the Radio and Television Administrative Committee. The department will consider allocating frequencies, and the Administrative Committee will be the one that authorizes things.

"We will have to consider this carefully, because the law prohibits the establishment of additional television stations in Thailand. The department is considering whether building this satellite station could be construed as building another television station, because this station would be used to broadcast television signals to other countries in Asia. It would not transmit signals in Thailand. Thailand would just be used as a base."

At the same time, a news source in the Post and Telegraph Department said that the Loxly and Hat Chin San companies want to broadcast television programs in

Asia, with the focus being on selling advertising. In Asia, this type of activity is worth billions of baht a year. Thus, these two companies want to carry on television activities throughout Asia by broadcasting programs to various countries via satellite. The Loxly Company already has the Asia Sat satellite, which can broadcast signals to China, southern Japan, India, Bangladesh, Taiwan, and Korea.

"To receive television signals from this satellite, it will be necessary to install a satellite dish. The Post and Telegraph Department will again ask the cabinet to consider allowing the private sector to have a satellite dish. To date, this has been authorized in special cases for certain individuals only, such as government officials of grade C-8 or higher, educational institutes, and certain individuals as deemed appropriate." [passage omitted]

## CZECHOSLOVAKIA

### Direct-Dial Telephone Service to Albania, Gibraltar

AU2909193590 Prague RUDE PRAVO in Czech 25 Sep 90 p 2

[“ZA”-signed report in the “By Telex, Mail, Telephone” column]

[Text] An automatic international telephone communication was introduced from the Czech and Slovak Federal Republic to Albania and from the Czech and Slovak Federal Republic to Gibraltar. The calls to Albania can be made by dialing the area code 00 355 and to Gibraltar by dialing 00 350.

## HUNGARY

### Swedish-Hungarian Telecommunications Joint Venture

91P60007X Budapest COMPUTERWORLD/SZAMITASTECHNIKA in Hungarian 2 Aug 90 p 1

[Article: “Muszertechnika-Ericsson Connection”]

[Text] Yet another joint venture plans on manufacturing telephone exchanges in Hungary. Other such earlier ventures were reported in COMPUTERWORLD/SZAMITASTECHNIKA 90/27 and COMPUTERWORLD/SZAMITASTECHNIKA 90/23.

The latest contender is the joint venture established between the Swedish Ericsson and the Hungarian Muszertechnika. The Swedish firm has been exporting telephone exchanges to Hungary since 1968, and in January 1988 it was the first to set up a digital exchange in Budapest. Although Muszertechnika is not yet experienced in the area of telecommunications, the telephone exchanges it will produce in cooperation with Ericsson will look a lot more like computers than the earlier electro-mechanical switchboards.

In the first phase, the Swedish-Hungarian joint venture plans on building a 100,000-line-capacity assembly plant, thus supplying about half of Hungary's need. This capacity represents the lower limit of profitability, so it becomes obvious that from among the joint ventures formed, no more than two could survive, namely the ones winning the recommendation of the Hungarian Telecommunications Enterprise. Just as we wait for a communication line, they wait for the green light, to start investing....

### Hungarians Prepare To Manufacture Western Telephone Exchanges

25020017X Budapest COMPUTERWORLD/SZAMITASTECHNIKA in Hungarian 7 Jun 90 p 4

[Article by Janos Andor Vertes: “Everything Is Possible!”]

[Excerpts] There is a new commodity on the investment goods market—the Videoton Radio Factory no longer

advertises its products but rather its free capacity. This commodity is measured in tons per year or hours per year and is intended to attract the interest of manufacturers of precision engineering cut metal parts or parts made with high pressure aluminum casting and precision casting.

Hopefully the Videoton SEL Telecommunications Engineering Corporation, formed on 23 October last year (the freedom holiday, the day the republic was proclaimed), will not have to offer its capacity the same way. The planned capacity is not small. The plan calls for exchanges capable of handling 100,000 telephone lines by 1991 and 300,000 telephone lines by 1993-1994, representing trade worth 150 million marks. The goal of the German-Hungarian mixed enterprise is manufacture of the System 12 telecommunications system, used in thirty countries of the world, but to fully exploit capacity they must win those Hungarian state orders for which there has been such a scramble in recent months.

System 12, in the development of which the mixed enterprise partner Standard Elektrik Lorenz played a determining role, is a completely digital switching exchange system. [Passage omitted]

Videoton has made good use of the freedom to reorganize. The former Electronics Enterprise now consists of 19 enterprises operating under the name Videoton Group. The group chose a group as a partner for the renovation of the informatics branch. At the beginning of this year the transnational Bull Group became the foreign owner of Hungarian-French-Informatics Ltd; Bull does more than 400 billion forints trade per year. [Passage omitted]

The Videoton Automatics Joint Enterprise has an old new partner, Dataproducts, which provided a license for the manufacture of line printers by Videoton in the early 1970's. Last year Videoton Automatics was the most profitable enterprise of the group but this year it is struggling with difficulties; in vain was it among the first to introduce the Comprehensive Quality Control System, in vain does it stand alone on the market of CEMA countries in robotics and line printer manufacture if these markets are shrinking so much today—not least of all due to government restrictions. [Passage omitted]

### Austrian Company Opens Budapest Office

91P60008 Budapest COMPUTERWORLD/SZAMITASTECHNIKA in Hungarian 2 Aug 90 p 1

[Article: “Digital Bridge”]

[Text] Schrack is a privately owned Austrian company having 3,000 employees, and doing business to the tune of 3 billion schillings (yearly). Electronic AG—one of Schrack's four affiliated companies—is the largest, representing two-thirds of its business activity. This company received important contracts from the Austrian

Post Office, within the framework of the ISDN (Integrated Services Digital Network) development effort, and played a leading role in creating the digital communications network of the Austrian Federal Railroad. Among the company's business partners figure important Austrian industrial firms, financial institutions, and many hotel networks. Schrack maintains market connections with many European countries; a number of its affiliates operate in the continent's western half.

With the objective of increasing its business in Hungary, it opened an office in Budapest. The management of this office was entrusted to Istvan Szini. Last year, the GYSEV (Gyor-Sopron-Ebenfurt railroad) was connected to the network, thus creating a modern communications bridge linking the Hungarian network to the Austrian. This company would like to apply its expertise gained in the area of manufacturing telecommunications products to other railroads.

**Ericsson Markets Mobile Phone Network**  
*91P200194 Oslo AFTENPOSTEN in Norwegian*  
*29 Oct 90 p 20*

[Unattributed article: "Mobile Phone Network in Hungary"]

[Text] Ericsson has recently started up the new mobile phone network in Hungary. Initially, the network will serve 2,000 subscribers, but it is thought that 20,000 will be linked to the network in the course of the coming year. Ericsson is the supplier of the entire network and a third of the mobile phones.

**ROMANIA**

**Congress of Independent Radio, TV Stations Concludes**

*AU2909200890 Bucharest ROMPRES in English*  
*1723 GMT 29 Sep 90*

[Text] Bucharest ROMPRES, 29/9/1990—The first national congress of the independent radio and television stations concluded in Bucharest Saturday afternoon.

The participants' questions were answered by representatives of the Ministry of Justice, the Ministry of Telecommunications, the Ministry of Labour and Social

Protection, the Ministry of the Interior, the Romanian Bank of Foreign Trade, the capital city's mayorship, the Romanian Radio and Television, the ROMPRES news agency and the Romanian Journalists' Association.

The congress adopted a resolution signed by 19 representatives of the independent radio and television stations which are already operating or are just organising which decided the creation of the National Federation of the Independent Radio and Television Stations and the government was requested to submit the bill on audio and visual means for public debate.

The participants appreciated as necessary the elaboration of a law of audio and visual means which should regulate the technical aspects regarding the distribution and use of frequencies.

The congress was sponsored by Rank Xerox company.

The proposal was made at the congress that the recently set up federation be affiliated to the International Federation of Independent Radio and Television Stations.

**YUGOSLAVIA**

**New TV Transmitter for Zagreb**

*LD2709212290 Belgrade TANJUG Domestic Service in Serbo-Croatian 1948 GMT 27 Sep 90*

[Text] Zagreb, 27 Sep (TANJUG)—Antun Vrdoljak, vice president of the Republic of Croatia, today formally opened a transmitter of Croatian television, the first outside the Yugoslav Radio and Television system. The transmitter will be broadcasting programs by the Youth Television.

Unveiling this facility Antun Vrdoljak pointed out the significance of the presence of "free and open media such as this independent television" and noted that the Youth Television [Omladinska Televizija—OTV] should be credited for its part in the democratization of the media.

The transmitter in Remete is one of the two of its kind and is envisaged to broadcast to Zagreb and its neighborhood. Its signal will be transmitted on UHF channel 45. Presently the Youth Television is broadcasting only teletext. The Youth Television's first regular broadcasts are expected to start on 16 October.

## BRAZIL

### USSR Named as Possible Partner in Space Projects

PY0110161690 Sao Paulo *O ESTADO DE SAO PAULO* in Portuguese 29 Sep 90 p 9

[By correspondent Noenio Spinola]

[Text] Moscow—Aeronautics Minister Socrates da Costa Monteiro yesterday made a comparison to show why the Soviets could be interested in launching rockets from Alcantara Base in Maranhao State. He said: "The same rocket that is launched from Baykonur with two satellites could carry four satellites if our installations are used."

The minister made a point of stressing the economic and commercial aspects of his visit to (Glavcosmos) and other space agency installations during his official visit to the USSR, the first after President Fernando Collor's inauguration. Yesterday he visited a missile factory that is now being switched over to civilian uses. Today he will meet with Defense Minister Dmitriy Yazov. "Partners capable of providing resources for completion of the Brasilia launching base will be welcomed," he said.

Da Costa Monteiro also answered questions from Brazilian and local reporters at a meeting sponsored by Ambassador Rego Barros. Today he will visit an air base where the Soviets will display the state-of-the-art MiG-29 and Sukhoi military jets.

A JORNAL DO SOLDADO representative asked him whether a visit of this type would have been possible some time ago. The answer was sharp and direct: "No." In fact, thinking of launching SS-18's or SS-20's from Alcantara 10 years ago would have triggered a crisis similar to the Cuban crisis because the conversion of long-range rockets into satellite launchers could hardly be digested in Washington, whose defense strategy includes the SS-18, SS-20, and other long-range rockets capable of carrying nuclear weapons.

Soviet journalists, some of them representing military publications, seemed surprised when the aeronautics minister announced that Brazil has lived in peace with its neighbors for 120 years, and that its Armed Forces could fit into Maracana stadium.

## MONSERRAT

### Radio Antilles To Resume Broadcasts by 31 Oct

FL2609213590 Bridgetown CANA in English  
2114 GMT 26 Sep 90

[Text] Castries, St. Lucia, Sept 26, CANA—Montserrat-based Radio Antilles, which was knocked off the air by Hurricane Hugo last year, is expected to resume broadcasts by October 31, Organisation of the Eastern Caribbean States (OECS) Director-General Dr. Vaughn Lewis announced.

Dr. Lewis said the station, bought by the OECS from the West German Government last year, had already started testing a 20,000 kilowatt transmitter.

Hurricane Hugo destroyed the station's 200,000 kilowatt transmitter, as well as other facilities in Plymouth and the south of the island.

"We need to ensure that (the station) becomes commercially viable in the long run," Dr. Lewis said, noting the station will operate at minimum power for at least one year. "...It will take time to install completely new transmitters which will bring it back to its original and even more powerful form," he added.

Dr. Lewis said an agreement had been reached with a number of international media organisations, including the British Broadcasting Corporation (BBC) and Deutsche Welle of West Germany, to relay some of their programmes heard on shortwave.

Dr. Lewis said the OECS was also seeking assistance from the United Nations Educational Scientific and Cultural Organisation (UNESCO) and the Commonwealth Secretariat for Management and Technical Assistance.

## BANGLADESH

**First International Direct Dial Upazila Digital Exchange**

91WD0021 Dhaka *THE NEW NATION* in English  
24 Aug 90 pp 1, 8

[Text] President H.M. Ershad yesterday formally inaugurated country's first upazila-level digital telephone exchange with international direct dialing facilities at Mithapukur of Rangpur district, reports BSS.

The formal inauguration was done when President Ershad had a telephonic discussion with Post and Telephone Minister Kazi Firoz Rashid and Land Minister Tajul Islam Chowdhury from Presidents Secretariat in Dhaka yesterday morning. Both the ministers were attending the inaugural function of the digital exchange at Mithapukur.

Inaugurating the digital telephone system the President expressed the hope that the installation of the most modern telephone system, first in the sub-continent, at a remote upazila has marked a new beginning in the country's telecommunications history. He said his government wants rapid development of the country and believes that the improvement of communications are pre-requisite for such developments. Other upazilas of the country would also come under such digital system in phases, the President hoped.

**First Subscriber Paging System in South Asia**

91WD0020 Dhaka *THE BANGLADESH OBSERVER* in English 28 Aug 90 p 10

[Text] A modern telecommunication facility introduced in the city on Monday in the private sector, will now enable 5,000 subscribers of Maghbazar exchange to receive radio signal of a call from a calculator size tiny machine he would carry with him. The facility, an ultramodern one is known as "paging system."

The jurisdiction of the Maghbazar exchange of the T & T Department will have an advantage of receiving signal from his set at home or office about an emergency caller. It will cover a radius of 30 miles around the telephone exchange. The subscriber having such a facility will be known as a 'pager subscriber.' Bangladesh is the first SAARC country to introduce the system.

The company which has introduced the system will charge about Tk 17,000 for the set with a monthly rental fee of Taka 844. The telephone department will get a revenue of Tk 1000 for each set sold. Bangladesh Telecom Limited which has introduced the system has reportedly made an initial investment of Tk 1.50 crore for the introduction of the facility.

Kazi Firoz Rashid, Minister for Post, Telegraph and Telephone while inaugurating the paging system

expressed the hope of improving the country's telecommunication network through private sector's participation.

## INDIA

**Space Scientist Rao Interviewed on Satellite Development**

90WD0771 Madras *THE HINDU* in English 21 Aug 90 p 11

[Text] Madras, Aug. 20—The first satellite of the indigenous second generation INSAT-II series is getting ready at the ISRO Satellite Centre, Bangalore, and it will be launched by the Ariane Vehicle by next year end from the Kourou island in the French Guiana, according to Prof. U. R. Rao, Chairman, Indian Space Research Organisation (ISRO).

He told *THE HINDU* here today that the ISRO had incorporated many new concepts in the fabrication of the first of the INSAT-II satellites as compared to the INSAT-I series, the last of which, INSAT-1D, was launched on June 12 from the Kennedy Space Centre, U.S. While all the four satellites of the INSAT-I series were made by the Ford Aerospace and Communication Corporation, the INSAT-II spacecraft will be built in Bangalore.

"The first spacecraft of the INSAT-II series will have a larger capacity. It uses the extended C-band antenna for the first time. It has 18 transponders as against 12 in the INSAT-I spacecraft. It has a larger eclipse capability and a search-and-rescue payload in addition to the meteorological payload. (The search-and-rescue payload can be used to locate victims of a plane crash on land and ship-wrecks or vessels in distress on the sea).

Greater reliability: "Besides, it is configured to provide a greater amount of reliability with much better design. We do not have deployment of the satellite in the transfer orbit. We have kept all our deployment in the final orbits that we have enough time. Among the many new concepts incorporated is the mechanism of the deployment of the solar panels which is simpler, based on the IRS (Indian remote-sensing satellite) technology," Prof. Rao said.

Simulation chamber: He said that the ISRO was readying a huge space chamber in Bangalore for simulating "major satellites" in space conditions. "We had a four-metre space simulation chamber, but the new one is a nine-metre chamber. It has solar simulation. We have a platform that can orient the spacecraft with regard to the sun to any angle and this will test major satellites. The chamber cost Rs. 30 crores and it is part of the INSAT-II project. We have built all our facilities as part of our programmes," he said.

The INSAT-II spacecraft and other big satellites such as IRS-1B would be tested in this chamber. "This consumes a large amount of liquid nitrogen with 30,000 litres and

these (space simulation) tests are done for 30 days at a time. The chamber will be used only for the final tests of large satellites," he added.

ASLV, PSLV teams in a race: Answering a question, Prof. Rao said "a race" was on between the project teams of the ASLV (Augmented Satellite Launch Vehicle) and the PSLV (Polar Satellite Launch Vehicle). The third flight of the ASLV from Sriharikota would take place by the middle of 1991. A number of modifications had been made for the third flight compared to its predecessor, which had failed. "We are far better off today. Various systems are being tested. Many of the tests are done at Sriharikota. Each time a test is done, it is re-configured.

On the preparations under way for launching the PSLV from Sriharikota, he said, "All its four stages have been tested individually. We need more testing because we have to build up the confidence level and establish repeatability for each stage. Every month, a major test is done."

The ASLV would deploy the SROSS-3 (Stretched Rohini Satellite Series) spacecraft. It would have a payload of the National Physical Laboratory for conducting atmospheric tests and an ISRO payload for detecting the sudden bursts of gamma rays in space. The PSLV would deploy the Indian Remote-Sensing Satellite, IRS-1E.

Variety of uses: The indigenous IRS-1A, which was launched by the Vostok vehicle on March 17, 1988, from the USSR, had been put to a variety of uses. "We have used it in sericulture to look at the total amount of mulberry growth and at the growth of cotton. We have used it for rice, sorghum, groundnut and wheat crops. We are increasing the uses one by one. The Union Government wanted us to look at cotton crop. The sericulturists wanted to use the IRS to know about the mulberry growth. The users should tell us what they want (from the IRS-1A). The yield per acreage should be established well before the crop is out," Prof. Rao said.

Asked whether malaria-prone areas could be detected with the help of IRS-1A, he said, "What you can see is not mosquitoes, but water-surface and ground water." The remote-sensing satellites could be used to spot stagnant water.

Detecting subsoil water: The IRS-1A had been used to detect ground water resources, mapping of wasteland and drought-prone areas. "We have used it to look at the rain-fed Dharmapuri district (in Tamil Nadu) which has large tanks.... One way of looking at drought is to look at the tanks. It is a question of using it to locate surface water and underground water resources," he said.

Prof. Rao visited the Anna University and met its Vice-Chancellor, Dr. G. Anandakrishnan.

### Naval Communication Facility Launched

*BK2110094590 Delhi Domestic Service in English  
0240 GMT 21 Oct 90*

[Text] The president, Mr. R. Venkataraman, dedicated to the nation, the 122 crore rupee Skylark project, a very low frequency naval communication facility at Vijayangaram near Tirunelveli in Tamil Nadu yesterday. With this, India is the first Asian country and the fifth in the world to have this highly sophisticated communication network. Our correspondent says that with the commissioning of the project, India joins the exclusive club of world maritime powers to possess the technology to communicate with submarines in a submerged condition.

Speaking on the occasion, the president said the naval establishment of the southern most corner of the country, besides carrying out this strategic task, will also act as a catalyst of economic and social progress in this area. He recalled the services rendered by the Indian Navy in the Maldives and in Sri Lanka. He expressed the hope that the communication facility at the station will strengthen the Indian Navy and enable it to defend the country's coastline with enhanced professional efficiency.

Mrs. Janaki Venkataraman named the establishment as INS Kattabomman after the great Tamil freedom fighter, Veerapandiya Kattabomman. The union minister of state for defense, Dr. Raja Ramanna, also spoke on the occasion.

### Bill To Establish Broadcasting Corporation Passed

*91AS0077Z4 Madras THE HINDU in English 6 Sep 90  
p 1*

[Text] The Rajya Sabha today approved the Prasar Bharati (Broadcasting Corporation of India) Bill, 1990 to free the electronic media from Government control after rejecting by voice vote three motions moved by the Congress(I) for referring the Bill to a joint select committee of the House and incorporating two amendments given by members of the same party.

The passage of the Bill appeared uncertain with the Deputy Leader of the Opposition, Mr N.K.P. Salve, categorically declaring in the House on Tuesday while initiating the debate, that his party rejected the Bill "lock, stock and barrel" and would press for a division on the motions for referring it to the select panel.

The suspense on the fate of the Bill continued throughout the eight-hour long debate as Treasury and Opposition benches had mustered all their strength for any eventuality by issuing whips to its members.

The air cleared only when the Deputy Chairman, Mrs Najma Heptullah put the motions to a voice vote and it became clear that the Congress(I) had decided not to

press for a division. A majority of the Congress(I) members remained silent when the voice vote was taken.

The first amendment moved by Mr P. Shiv Shanker and Mrs Jayanti Natarajan (Cong-I) sought to make the recommendations made by the three-member Prasar Bharati selection committee, headed by the chairman of the Council of States, binding on the Government. The selection committee is to recommend a panel of nine names for the Board.

The second amendment moved by Mr B.A. Masodkar and Prof. C.P. Thakur (Cong-I) sought to bar anyone who ceases to be a citizen of India from being a member on any of the bodies of the Corporation. The Bill would now go back to Lok Sabha in view of the two amendments.

#### Simply Agreed

The Congress(I) members who had proposed the bulk of the 100-odd amendments chose to withdraw them after brief observations. Towards the end they simply agreed to withdraw their amendments thus allowing smooth passage of the Bill.

In his reply to the debate, the Information and Broadcasting Minister, Mr P. Upendra appealed to the Congress(I) not to press on the motion for referring the Bill to a select panel. The demand has been voiced to elicit expert opinion, but the present Bill has been amended on the basis of nine month long nation-wide debate and consultations with all political parties.

The Government was not rigid on the structure of the Corporation as envisaged in the present Bill and the Parliament can always amend it on the basis of experience gained.

With the approval of the Bill the National Front Government has fulfilled one of its major promises. Mr Upendra was hopeful that in the next six months the Government would be able to complete the procedural aspects on setting up the Prasar Bharati Corporation and promised to keep in mind all suggestions made by the members at the time of framing of rules to be followed by various bodies envisaged under the Corporation.

Mr Upendra said that while framing the Bill, the Government had to reconcile to two extreme viewpoints. While one school of thought advocated complete autonomy to the electronic media, the other was against unbridled autonomy.

#### Two Extreme Views

"We had to reconcile with these two extreme positions and arrive at a consensus," Mr Upendra said and tried to

allay apprehensions of members that the selection committee for the Prasar Bharati Board would be influenced by the Government nominee and said that the Government did not intend to appoint an official for the position. It would be a media expert.

The Chairman of the Council of Ministers has been made the chairman of the selection committee as the Government wanted a representative of Parliament to be associated with it.

In response to demands from members that the Board should have representatives of women, weaker sections and minorities the Minister said the composition of the Board should be left to the selection committee. All directives from the Government to the Prasar Bharati Board shall be in writing and the annual report of the Directors of the Corporation will be placed before Parliament.

On the objection raised by Mr Salve to transferring of all assets to the Corporation as base capital, the Minister said the Government would specify the terms and conditions on the use of these assets and make sure of their safety.

In response to the concern expressed by Mr J.P. Mathur (BJP) on increasing commercialisation of the electronic media he said the Government reserved the right to determine the proportional time of advertisements.

He assured the House that any decision of the 22-member Parliamentary Committee to oversee the functioning of the Corporation would be binding on the Government. The committee was essential as the Corporation will have accountability to Parliament. On the superannuation clause, the Minister said it was incorporated to take care of any contingency which might arise in future.

## LIBYA

#### Libyan-Cuban News Agreement Signed

LD2909161790 Tripoli JANA in English 1431 GMT  
29 Sep 90

[Text] Havana, al fateh 29, Jamahirya News Agency—An accord for cooperation between the Jamahirya news agency and the Cuban news agency was signed in Havana last Thursday.

The accord provides for the exchange of news services between the two news agencies and the transmission of the news of the Latin American and African regions for the benefit of the two areas.

The accord also provides for the exchange of correspondents and setting up of joint training programmes.

**FRG Firm Takes Part in 'Heavy' Satellite Program**

PM0210090790 Moscow Television Service in Russian  
1700 GMT 26 Sep 90

[From the "Vremya" newscast: Report by Oleg Kolin and cameraman A. Ananich, identified by caption]

[Text] [Newscaster] Many joint ventures have started up in our country recently. And they have taken the most varied forms—from car production to the organization of beauty contests. Here's a report by Oleg Kolin on one of the most promising projects.

[Kolin] [Video shows interior of enterprise] It's no secret that in terms of computerizing our society we're considerably behind many of the developed Western countries. That's why I learned with surprise that the well-known West German communications firm ANT Bosch Telecom is interested in the work of an enterprise near Moscow. Admittedly, it is a special enterprise—the "Energiya" Science and Production Association founded by Academician Korolev. Incidentally, it was here that the first communications satellite—"Molniya-1"—was developed. Today the designers and scientists from Kaliningrad near Moscow are proposing to place heavy communications satellites in orbit using the unique "Energiya" launcher. [Video shows agreement signing ceremony] The all-union "Energiya-Marafon" Association was recently set up to carry out this plan. A memorandum of cooperation between the association and ANT Bosch Telecom was signed yesterday. It was signed on behalf of the Soviet side by Yuriy Pavlovich Semenov, president of the association and general designer at the "Energiya" Science and Production Association, and on behalf of the West German side by Dr. Dietrich Davids [as heard].

**Regulations for the Use of Municipal and Rural Telephone Systems**

90WT0090 Moscow BYULLEHEN NORMATIVNYKH AKTOV MINISTERSTV I VEDOMSTV SSSR  
in Russian No 3, Mar 90 (confirmed 22 Mar 1985; amended and revised 1 Jan 90) pp 16-25

[Regulations of USSR Ministry of Communications]

[Abstract] The regulations for the use of municipal and rural telephone services are divided into six sections.

Section 1 indicates the responsibilities of the phone company to customers including the procedure for registering complaints.

Section 2 outlines the services provided to customers: installation of private and communal lines at dwellings and enterprises, replacement and repair of equipment, change and listing of phone number, and billing.

Section 3 outlines the conditions for the provision of service and the order of execution. Enterprises are serviced before individuals, and certain categories of individuals (for example, invalids) are serviced before other individuals.

Section 4 lists the conditions of use by the customer. The customer must pay bills promptly, and give one month notice for any change in service. He is prohibited from installing equipment on his own or impeding repairmen.

Section 5 outlines the fees for services, payment locations, penalties for nonpayment, and refund policies.

Section 6 lists the order and conditions for provision of service to enterprises, institutions, and organizations, which are very similar to those for individual customers.

**RSFSR Broadcasting Plans Outlined**

LD0110212490 Moscow GOVORIT I POKAZYAVET MOSKVA in Russian 1 Oct 90 p19

[Unattributed article: "Once More on the Subject of State Television and Radio Broadcasting for the Russian Federation"]

[Excerpts] A regular edition of the television program "Here in Ostankino" took place on 20 July of this year. Taking part in it were leading staff of the USSR Gosteleradio [State Committee for Television and Radio Broadcasting]. Under discussion was the present state of television and the prospects for its development in the immediate and distant future. The program was broadcast live, and it provoked enormous interest among viewers. But it lasted for just one hour. Naturally many of the questions that were asked were left unanswered. A lot of questions were received after the program ended, both by those taking part in it and by this weekly newspaper. Our correspondent Vyacheslav Yanchevskiy has had another meeting with Valentin Ivanovich Khlebnikov, head of the main scientific and technical and production directorate of the USSR state committee for television and radio broadcasting, who was one of those who took part in the program. [passage omitted: some people feel that Gosteleradio would like to delay the introduction of republican television and radio; Moscow viewer asks how many years, how many five-year plans, is it going to take to solve these issues?]

Correspondent: And Comrade Kazmin from Ulyanovsk writes: "Surely the Russian Federation has made some investment in the technical base of Central Television?" The same question is asked by Comrade Kristal from Moscow.

Khlebnikov: The Russian Federation certainly has made a considerable share of the investment in the development of the television and radio system, both in Moscow and in the localities, in the kray, oblast, and republican centers of the federation. Suffice it to remember that 70 of the 120 television centers that exist in the country operate upon the territory of the federation. And all of

them belong to the Russian Federation. No one is encroaching upon them. Does Russia have a share in Central Television? Of course it does! [passage omitted: viewers and listeners in the Russian Federation, like those in the other republics, have access to Ostankino programs, many of which deal with Russian Federation topics]

Nor is there any foundation for the reproach that the USSR State Committee for Television and Radio Broadcasting in some way wants to drag out resolving the issue of setting up television and radio for Russia. We are actively promoting their establishment as quickly as possible. [passage omitted: provisions of Yeltsin's decree on the establishment of state television and radio of the RSFSR outlined]

This decree places an obligation upon the RSFSR Council of Ministers to allocate resources for running the state television and radio of the RSFSR. We are participating in work on implementing this decision in the most direct way possible. Meetings have taken place with M.N. Poltoranin, chairman of the committee on mass information media, and with leaders of the television and radio broadcasting of the RSFSR. It is intended that Russian Federation radio broadcasting will start at the beginning of November. For this the USSR State Committee for Television and Radio Broadcasting is allocating several hours of broadcasting time within the first, second, and third programs of all-union radio. Then over the course of the following year we have agreed to engage jointly in setting up a separate network of channels and transmitters for relaying Russian Federation programs. There is a similar picture with regard to RSFSR television, too. It is a question of making available to start with a certain quantity of hours of screen time within the first and second all-union programs of central television. [passage omitted: viewer's suggestion that the second all-union channel should simply be turned into a Russian Federation channel dismissed because it would put Russian Federation viewers at a disadvantage; furthermore non-russian republics would be unlikely to take such a second program and that would be detrimental to the interests of Russian-speakers resident in those republics; nor would the idea of using the Leningrad program as a basis for a Russian federation channel work]

Summing up what has been said, I would like to stress once again that the plan for development of multi-program broadcasting which has been worked out and which is already being implemented by USSR Gosteleradio jointly with the USSR Ministry of Communications and the communications equipment industry resolves many acute problems in the best possible way and ensures the formation of a system of state television and radio broadcasting for the RSFSR and the provision of a large number of broadcasting channels for the country's television viewers and radio listeners.

Four all-union television channels are envisaged at the first stage: the present first and second channels; a third channel which will be educational; and a channel which

will be made available in full for the transmission of the programs of Russian Federation television. The solution of this task will be assisted by satellite television and the system which is currently being actively developed under the name "Gelikon".

We expect that industry will manufacture and ensure the launching of the first satellite in 1991. It will operate in the European zone of the Soviet Union. The new programs, including those of the Russian Federation, will be relayed by it. According to our calculations—and they are being coordinated with the plans of industry—the "Gelikon" system will be formed over the whole of the country's territory by the year 1995. We hope to begin test transmissions by satellite from next year and to build up the number of satellites, receiving stations, and cable distribution network transmitting stations over a period of five years.

#### **Radio Tajikistan to Carry 'Voice of Aryan' Program**

*LD2609194390 Dushanbe Domestic Service in Tajik 1600 GMT 26 Sep 90*

[Text] Dear radio listeners: As we reported previously Radio Tajikistan aims to improve and increase the [word indistinct] and information for Tajiks living outside the territory of Tajikistan. For this purpose it has prepared a series of interesting programs. We decided to call the program "Saday-i Aryan" ["The Voice of Aryan"]. This radio program will be transmitted from the Soviet Union republic centers. On 27 September the "Voice of Aryan" program will be transmitted live at 1500 [0800 GMT] from the cities of Bukhara and Dushanbe via the first program.

Dear listeners, you can participate in the preparation of the [word indistinct] and the topics of the program. The telephone numbers of the "Voice of Aryan" studios are 277457 and 277307 and they are at your service.

#### **Lithuanian Radio's Second Channel Reorganized**

*LD2509152590 Vilnius International Service in English 2130 GMT 24 Sep 90*

[From the "DX Club" program]

[Text] [Announcer] Today I will tell you about the latest plans to reorganize the second program of the Lithuanian radio home service.

Two newly-established broadcasting organizations have made claims to air time of the transmitters of the second program of the Lithuanian radio home service. These are Radijo Centras and Vilnius Varpas.

As you might know, on [word indistinct] from 0700 to 1500 hours UTC, these transmitters carry the first program of Lithuanian Radio home service in parallel to the usual first program transmitters. This situation is no doubt unjustifiable from the economical point of view. The launching of parallel transmitters placed in the same

site hardly, if at all, improves the reception conditions of a given program. Thus it becomes (?evident) that this time slot had to be filled with a regional program, otherwise the transmitter should be switched off. However, a reduction of the air time is undesirable for the [word indistinct] ministry which is concerned in the profit brought by (?leasing) the transmitters to the Lithuanian radio. On the other hand, Lithuanian radio officials have stated several times that they have no technical means to expand the amount of programs. That's why the new broadcasters, Radijo Centras and Vilnius Varpas, are offering their assistance in this issue.

Both these broadcasters are in the stage of foundation and do not broadcast any programs yet. Vilnius Varpas, which by the way means the Bell of Vilnius in English, is a commercial radio station set up by three professional Lithuanian radio [word indistinct]. It plans to produce programs on culture, ecology, national minorities, and folk music with emphasis on the Lithuanian cultural heritage. The station would use the program production facilities of the Lithuanian radio and seek financing from the [word indistinct] budget.

Radijo Centras is a joint venture of the entertainment company Centras and the joint stock Lietuvos Rytas. It is founded after the new organization of the youth radio

station M1 which was established more than a year ago by the Lithuanian Komsomol and was on the air from 31st December 1989 to 31st May 1990. Radijo Centras will produce the same sort of programs that the former M1 did, that is, information on current events and music emphasizing on modern music for young people. The station would use the premises of M1 and would be financed by the two founders Centra and Lietuvos Rytas. The transmitting security is being financed by the Lithuanian radio.

Two weeks ago a session of the Board of the Lithuanian Radio and Television took place to discuss the proposal. Due to the collision of interests of the two broadcasters a compromise had to be found. It was formulated by the editor-in-chief of Radijo Centras [name indistinct], a member of the Lithuanian DX Club, by the way. He proposed that Vilnius Varpas should fill in the time between 0700 and 1100 hours UTC and Radijo Centras between 1100 and 1500 UTC. Five-minute news bulletins compiled by the Lithuanian radio should be inserted on the hour. The whole program lasts from 0700 to 1500 UTC, it shares common identification tunes and a common name, for example (Delta). The (Vilnius) Board reacted positively to the proposals and decided to send it on to the experts for approval.

## EUROPEAN AFFAIRS

**Private Network Offers for GDR Compared**

90WT0146A Frankfurt/Main *BLICK DURCH DIE WIRTSCHAFT* in German 15 Aug 90 p 7

[Article by Dirk Nouvortne: "Telecommunications with Private Networks—Datalinks in the GDR—Bids and Prices"; first paragraph is *BLICK DURCH DIE WIRTSCHAFT* introduction]

[Text] The aged and worn out GDR communications network is a hindrance to investment by Western firms. For at least five years, according to current prognoses, there will not be an adequate infrastructure available for use. With this background, the offers of satellite links by private vendors is interesting for many firms. In his article presented here, Dr. Dirk Nouvortne, Director of Office and Telecommunications in the Section for Data Processing and Work Procedures in the Gerling-Konzern, gives us an overview of the offers and compares the services and prices.

With the introduction of the currency union, decisive economic prerequisites were established for the investment by Western firms in the GDR, which was formerly directed by a planned economy. However, the fact, that with this development, by itself, the task has not been completed, underlines any macroeconomic observation. The existing infrastructure is particularly significant as a factor in location selection, and with that the readiness to make investments. The telecommunications infrastructure is centrally significant in an age where information is a critical factor in success.

If one follows the published writings on this subject, one finds that the worn out communications network in the GDR is always cited as a great obstacle to Western firms ready to invest. There are estimates which proceed from the assumption that there will not be a functional, qualitatively and quantitatively adequate telecommunications network in the GDR before the 1995 to 1997 time period. These predictions also show this network will be more modern than in other Western countries, but that fact does not convince any firms to invest in the GDR today.

Given that, consideration moves to the currently available alternatives or the possibilities of living with the restrictions. The first alternative is the telephone network, but it is speculative to even consider it as an alternative under the existing conditions. The telephone network is not only outdated, it also has completely inadequate capacities for the demands of a modern economy.

The option of using telephone facsimile on the telephone network is likewise only available with great risks, though it is not comparable with western-type fax communications. The best possible case is transmitting in FAX Group 2 Mode (2,400 kB [kiloBITS] per second). It is recommended to transmit fax messages during the

evenings as much as possible, because during the day, the telephone network is overloaded.

The second possibility is the telex network. In conjunction with the GDR's communications connections with western foreign countries, telex service is undergoing a renaissance. This service is generally considered outdated but is still the greatest world-wide coverage of any text service. Telex currently appears to be the only noteworthy alternative in the telecommunications infrastructure. Thankful for any possibility, one overlooks the limitations of this service, such as transmission speed (50 Baud) and the limited selection of characters. Naturally, for applications with the demand of "fast" transmission speeds, this service is not available.

Naturally, there are a number of other possibilities, and in times of need, people are also creative. For example, there is the possibility here of using international rental lines. Unfortunately, the capacity here is not endless. Another possibility is the use of "voice computers" which could assist in circumventing the overloaded telephone connections between the two German states, seeking connections via a third country. As complicated as this solution is, it releases the West German communications partners from the burdensome and often fruitless dialing route.

The fourth possibility is accepting the offers of private network vendors. All the alternatives listed above essentially operate at inadequate transmission speeds with insufficient capacity and a low probability of making a connection at a given time. It is true that there are plans to install, as soon as possible, an overlay network to cover the most urgent needs for telephone connections. This will not be on line before mid-1991, and with 95,000 new connections, it will be at first only a drop in the bucket. In this context, it is interesting to investigate the offerings by private network operators, whereby the economic aspects can also be considered. This refers exclusively to data connections.

The need of companies to supply data lines to their subsidiaries corresponds from the outset with the same level of service standards as now exists in West Germany. This naturally leads to the result that the needs for data communications will only be met slowly.

The DBP [Deutsche Bundespost—FRG postal service]/Telekom can not meet this demand itself. Only the assistance of private network operators with their concentration options will be able to lead to a partial satisfaction of customer demand. The two technical alternatives in the realm of data communications for linking communities in the GDR travel either via satellite channels or via ground-based connections (hard connections here). The restrictions of these alternatives:

- The satellite connections create transmission duration problems;
- Ground-based lines are not currently directly available for all network operators.

It is not currently permitted to establish satellite terminals for private network operators. Ground networks will be tied into the satellite system via the DBP/Telekom's Hameln terminal, from which point logical "network segments" which are independent from one another can be operated. The speed of the terminal to the orbital station (uplink) is 9,600 kB per second. Final (signal) distribution to the individual locations of (business) customers' GDR branch operations is transmitted at the same speed. Because of capacity reasons, no more than five connections at 9,600 Bits/second are to be bundled to one uplink, because the sacrifices in speed are too grave when more than five systems are tied in.

Despite this, the connection via Satellite has a considerable advantage over ground-based lines. Through the possibility of installing satellite reception stations on the user's building on site, local connections to land lines are

not needed. These would be necessary between perhaps the network junction in the planned overlay network and the user's site. Over time, the constraint in the GDR telecommunications infrastructure will be less in the expansion of a modern interregional infrastructure and much more in connecting the local street feeder lines.

The economic comparison of the various carriers' offers is interesting. Four vendors of private network services in the GDR are compared by price, based on bids. Specifically, there are IBM, Info, Meganet and the DBP/Telekom (see Table 1). In order to compare these bids, it is necessary to define generally similar measures of comparison. The following variables were tabulated for comparison: base price, contract time, free monthly usage volume, additional charge per MB [MegaBIT], local lines in the target location, and the installation cost. Only satellite networks were compared. The only exception is a ground-based connection bid by Meganet.

Data Links in the GDR—A Price Comparison

	IBM	Info	Post <sup>7)</sup>	Meganet Megaline
Base Price	DM1,985 <sup>2)</sup>	DM8,000	DM8,200 <sup>8)</sup>	DM2,000 <sup>3)</sup> to DM7,000
Contract Period	1 Year	3 Years	3 Years	1 Year <sup>4)</sup> or 3 Years
Free Monthly Volume <sup>1)</sup>	12.5 MB	35 MB	free <sup>9)</sup>	200 MB
Additional Charge Per MB	DM44.50	DM130	—	Staged Tariff <sup>5)</sup>
Local line at Destination Site	yes	no	no	yes
Installation Charge	—	DM6,000	DM700 <sup>10)</sup>	DM5,000 <sup>6)</sup> or free
Type of network	SAT	SAT	SAT	land-based

Method of calculation: Sum of both directions.

2) Exception: for five ports operating at 9,600 Bit/second, a port operating at 64 kBit/second is switched to the central exchange.

3) Method of calculation: basic service fee plus surcharge of 30 percent (based on distance) up to 50 MB, then a total flat price of DM3,850.

4) With the three year agreement, Meganet offers a 10 percent rebate. In addition, they drop the installation charge.

5) Beyond 200 MB, the price increases in 20 MB stages. Beginning at 300 MB, a second line is more economical.

6) All the equipment charges are already included in the installation fee. The installation fee is dropped with a three-year agreement.

7) The Post offering for satellite reception stations.

8) Exception: 5 sites with 9,600 Bit/second (downlinks) will be served with a 9,600 Bit/second uplink. For higher volumes, a second uplink is required.

9) Beyond about 200 MB, capacities must be expanded.

10) One-time equipment charge for connecting lines.

The comparison of the different offerings is not that easy, because the vendors attach different requirements to their tariff structures. The basis of the IBM offering are connecting ports. In the bid calculation, it is assumed that, for five 9,600 Bit/second ports in the GDR location, a 64 kBit/second port in West Germany will be connected to IBM. Over a year, this means for DM33,000 and for the five 9.6 ports in the GDR a total of DM56,000. Calculated on a monthly basis, the above-described configuration would equate to payments of DM7,416. Adding the cost for feed lines in West Germany for DM760 and DM1,750 for five locations in the

GDR, and the monthly sum totals DM9,926. Per location, this comes to a cost at the level of DM1,985. For (transmission) volumes above 12.5 MB, an additional DM44.50 must be paid per MB. In the Info bid, it is not ports but rather lines which are the basis of cost tabulation. In addition to the base price of DM8,000 and the charge for transmission volume, there is an installation fee of DM6,000, which can be spread out over 36 months because the contract is for a three-year period.

In comparison with the DBP's price structure, based on an offer for a satellite reception station, the assumption

is made that five locations in the GDR will be served each with 9.6 kB/second with an uplink at 9.6 kB/second. (An additional uplink is necessary for higher volumes, according to DBP/Telekom.) The uplink is estimated at DM31,000/month and the GDR reception stations at DM2,000 each. In the above case, there are also the additional charges of up to DM8,200 plus about DM20 for related installation costs per installation. Somewhat out of the scope of these other offerings, there is the Meganet proposal for a ground-based "Megaline" connection. Meganet has already applied for transit lines to the GDR at a very early date, which now provides a number of interesting items through bundling. Anyone wanting to apply to the DBP today for lines to the GDR will be put off until early in 1991, depending on the location. This is because there is no more available capacity. Meganet is currently installing network exchanges in several larger GDR cities, with the goal of providing an interwoven network analogous to the West German example. Planning proceeds based on being able to make corresponding proposals up until October 1990. The connections between network exchanges have a speed of 9.6 kB/second. The cost calculation is as follows: the basis is the distance between a city in West Germany and the GDR. Since it is not currently possible to get a direct connection, the West German user will be connected to the nearest Meganet exchange (the cost for this must also be considered). From there, the user will be connected to the selected GDR location via Meganet, which can reach to its own transit lines. With this, the cost basis is distance, with calculation on the basic service fee with a 30% surcharge. Finally, the GDR local connection for DM350 must be included; likewise, there is the cost of a remote connection when not working with an intra-urban connection.

The connection depends on volume. Included in the prices quoted above is DM100/month and per connection. Meganet's method of volume measurement tracks the transmission and reception direction at the same time for each connection. The sum total transmission volume (up to a maximum of 200 MB) is then divided by two, which then yields a 100 MB figure following this procedure. Extra transmission volume (over 100 MB) is billed additionally, in blocks of 10 MB per month. User fees for the affected connection increase as follows:

10 MB	4.47%
20 MB	10.07%
30 MB	38.40%
40 MB	68.27%
50 MB	106.57%

It becomes clear here that beyond a certain additional transmission volume, leasing a second line is less expensive. Up to 50 MB per month raises a total fee of DM3,850. Meganet bills for an installation fee which includes all equipment charges. This installation fee is dropped with a three-year contract, however.

On the basis of these evaluations, some comparative calculations were made which give a feel for the sums involved. To make a quick generalization when identifying the most economical alternative would be premature. This is only to give an orientation. Each interested firm should shop selectively among the various carriers on the basis of their needs and applications, because there are also manufacturer-specific and technical restrictions to consider.

Monthly Costs (in DM)				
Monthly Transmission Volume *	IBM	Info	Post/Telekom	Megaline
10MB	1,985	8,167	8,219	3,850
20MB	2,319	8,167	8,219	3,850
100MB	5,879	16,617	8,219	5,477
				6,122
150MB	8,104	23,117	8,219	5,477
				6,122
200MB	10,329	29,617	14,419	5,477
				6,122
300MB	14,779	42,617	14,419	10,954**
				12,244**

\* With consideration of the "free calls" and the base prices; \*\* A second line is more economical.

The following assumptions are made:

- Installation charges are spread out over three years;
- Three-year contracts;
- 200 km distance between locations (300 km on Megaline);
- Taking local lines into account.

It should be stressed that DBP/Telekom cites realistic transmission volumes as far as they maintain that when using a 9.6 kB uplink, beyond 200 MB/month with five 9.6 kB/second lines, an additional uplink will be needed. Otherwise, the response times become unacceptable. This fact is addressed by the other satellite vendors through the rapid increase in cost in the volume-oriented price structure.

To conclude from this analysis that the ground-based connections are the most economical would be false. Company-specific conditions and the Meganet connections to a given company branch site could make the other connections appear more economical. The time commitment of three years, with the advantages offered by the various vendors, should definitely be made. According to projections, for at least five years there will not be an adequate infrastructure available for use.

### ESA Approves Three Communications Satellite Projects

90M10332X Bonn TECHNOLOGIE NACHRICHTEN-MANAGEMENT INFORMATIONEN in German  
15 Aug 90 pp 13-14

[Text] The ESA [European Space Agency] Council adopted three new major programs in the field of advanced communications satellite systems in late July.

ARTEMIS (Advanced Relay and Technology Mission Satellite) will carry three experimental payloads to demonstrate new technologies and services:

- A laser-optical communications payload for high transmission rate data links with satellites in near-earth orbit within future data relay systems;
- A high performance payload in the S-band with multiple access, to prepare the way for the operational data relay system;
- An L-band payload for mobile ground radio communications to demonstrate satellite communications services for European ground vehicles.

The Artemis geostationary satellite platform will present substantial improvements in design, thus making it possible to launch greater payloads, provided the satellite mass does not exceed half the capacity of Ariane-4. The DRS (data relay system) will comprise a space and ground infrastructure and be used in communications between users such as the free-flying Columbus Laboratory, which is part of ESA's contribution to the international space station, the Hermes spacecraft, the polar platform, and the ground. The decision on the development phase of this program will be taken late in 1991. Artemis will be launched in 1994, and the DRS in 1996, with an Ariane-4 rocket from Kourou in French Guiana. Selenia Spazio in Rome is the main contractor for the Artemis and DRS programs. The Italian Government is making the largest contributions (45 percent) to both programs. Belgium, France, the Netherlands, Austria, Sweden, Switzerland, Spain, Great Britain, and Canada have also promised to participate in the programs. Finally, the Council also decided to extend by four years the Advanced Systems and Technologies Program (ASTP), the purpose of which is medium- and long-term research and development on advanced satellite technologies and satellite telematics.

Over the past 10 years ESA has made a decisive contribution to the creation of two great satellite operating organizations: Eutelsat, which operates the ECS [European Communications Satellite] television and telephone satellites developed by ESA, and Inmarsat, which uses the ESA-developed Marecs satellites in its worldwide marine radio system. With Olympus, the largest experimental communications satellite, which designed to demonstrate new European technologies and services and was launched in 1989, ESA confirmed its reputation

as a successful promoter of the European communications satellite industry. Artemis and DRS will further consolidate this reputation in the next 10 years and more.

ESA regards these new programs as a significant contribution to the development of new telecommunications facilities and services, the market for which is rapidly expanding worldwide.

### CANADA

#### Ottawa Backs Northern Telecom Contracts in China

91WT0004 Toronto THE TORONTO STAR in English  
28 Aug 90 p B7

[Text] The federal government is lending up to \$21.5 million (U.S.) to China in support of contracts awarded to Northern Telecom Canada Ltd. to construct telecommunications systems in China.

Northern Telecom Canada is a unit of Mississauga-based Northern Telecom Inc., which in turn is a subsidiary of BCE Inc.

Northern Telecom will supply digital switching systems and digital microwave systems to two Chinese provinces.

The federal government said the loan has been provided through Canadian Export Development Corp., the country's official export credit agency. The transactions are financed under a line of credit between the federal credit agency and the Bank of China.

The Canadian government said the transactions comply with its guidelines regarding trade with China.

#### CRTC Changes Policies Regulating Native Stations

91WT0010 Toronto THE GLOBE AND MAIL  
in English 21 Sep 90 p A12

[Article by Christopher Harris]

[Text] The Canadian Radio-Television and Telecommunications Commission has unveiled a number of broad changes in its policies governing the regulation of aboriginal broadcasting in Canada, aimed at creating what chairman Keith Spicer calls a "flexible minimalist approach" to the subject.

Under the changes outlined yesterday, advertising restrictions have been relaxed for native radio stations in recognition of their chronically limited financial resources, and native-controlled FM stations in non-competitive markets will no longer have to file the "promise of performance" normally required in licence applications.

Native radio and TV stations "deliver a much-needed primary level of service, often in aboriginal languages,"

Spicer said in a statement yesterday. "This is an essential part of enhancing and protecting aboriginal languages and cultures."

Most native radio stations in Canada were severely crippled in February, when the federal government's 1990 budget eliminated the \$3.4-million native communications program, which provided as much as 25 per cent of the budgets of many aboriginal radio stations across northern Canada.

With the new rules, native radio stations in areas with no competitors will now be completely unrestricted in their advertising. In markets where there are other non-native commercial AM or FM stations, the native outlet can broadcast an average of four minutes of ads an hour. Aboriginal TV stations, however, will still have to conform to basic CRTC restrictions of no more than 12 minutes of commercials an hour.

Neither the Assembly of First Nations, the national native association, nor the Canadian Association of Broadcasters, which represents private broadcasters, would comment on the policy yesterday before studying it in detail.

#### **CRTC Ends Telecom Monopoly on Overseas Calls**

*91WT0017 Toronto THE GLOBE AND MAIL  
in English 5 Sep 90 p B3*

[Text] The federal telecommunications regulator is predicting lower costs for many overseas telephone calls thanks to a decision it released yesterday.

The Canadian Radio-Television and Telecommunications Commission also is predicting the decision will cut down on the practice of rerouting domestic and overseas long-distance calls through U.S. telephone companies to save money.

The CRTC said telephone users with access to private lines—either their own, or those provided by long-distance resale firms—no longer will have to go through Telecom Canada to gain access to the overseas network operated by Teleglobe Canada Inc. of Montreal.

Instead, the CRTC ruled, they also will be able to gain access to the Teleglobe network through private lines leased from: Bell Canada, a unit of BCE Inc. of Montreal; British Columbia Telephone Co. of Burnaby, B.C.; Telesat Canada of Ottawa; and Toronto-based Unitel Communications Inc.

Telecom Canada is a consortium that handles long-distance traffic inside Canada for 11 federally regulated telephone companies.

A CRTC official said the consortium takes a cut of every overseas call routed through its network of Teleglobe.

The commission said in a new release that it had concluded that forcing overseas callers to go via Telecom Canada gives the consortium "an undue preference."

The CRTC has ordered Teleglobe, which is controlled by Memotec Data Ltd., to file—by 26 October—proposed rates, terms and conditions for connecting private lines directly to its overseas network.

"The lower rates for overseas telephone calls which the Commission expects to see will be particularly good news for smaller businesses, which make up the majority of customers served by companies reselling long-distance services," CRTC chairman Keith Spicer said in a news release.

"Making it more attractive to use Teleglobe's facilities could also minimize the bypass of Canadian facilities, which involves routing domestic and overseas calls through U.S. carriers."

Yesterday's ruling stems from applications made to the CRTC by Fonorola Inc. and ACC Long Distance Ltd.

The CRTC also yesterday called for comments on an application it has received from Teleglobe requesting that Bell, B.C. Tel and Unitel revise their tariffs to prevent resellers from using transborder services to route overseas calls through U.S. carriers.

#### **GLOBE AND MAIL Discusses Spicer Role as Head of CRTC**

*91WT0016 Toronto THE GLOBE AND MAIL  
in English 4 Sep 90 pp B1, B5*

[Article by John Partridge]

[Text] Hull—As Keith Spicer begins his second year as Canada's chief broadcast and telecommunications regulator, he is trying to sound like a man firmly in charge of his own and his organization's destinies.

"I now feel I can start making some real changes," the chairman of the Canadian Radio-Television and Telecommunications Commission said last week in a lengthy interview in his Hull office.

"I have my own people in place...I have been able to reshape things fundamentally the way I think they should be, and you'll see a lot of the fruits of that this fall."

But if Mr Spicer is exuding confidence, the view is decidedly different in some places on the other side of the regulatory fence, not least in gossip-lubricated Ottawa.

There, the picture drawn in private conversations is one of the CRTC in disarray, with most of its eight commissioners allied against the chairman, and its administration in a shambles:

And some content—not, of course, for quotation by name—that Mr Spicer's performance is providing the federal Department of Communications with all the justification it needs to exert more control over the

independent CRTC, as sections in the as-yet unpassed new broadcasting bill would allow.

Mr Spicer professes to be unconcerned with this "third-hand gossip."

He gives equally short shrift to the event that most recently set tongues wagging.

This was his passionate denunciation of an 8 August decision of the majority of his fellow commissioners to award a Toronto FM radio licence to a company planning a country station, rather than to one of several other groups advocating a dance/black-music station.

"The decision," he wrote, "does not seem to pay due attention to Parliament's clear wish that federal programs, policies and practices reflect a healthy, indeed realistic, multiculturalism." And he expressed his "regret" that his colleagues had missed a "splendid opportunity" to support a "diverse Canadian society."

Predictably, several of the groups behind the dance/black bids have appealed the decision to the federal cabinet.

The public disagreement between chairman and commissioners, shocked industry players. Andr Bureau, Mr Spicer's predecessor, appeared to rule with a rod of iron and kept dissensions during his tenure very quiet.

However, Mr Spicer makes it clear he thinks people who believe he has damaged the CRTC's credibility have got things wildly out of perspective.

A CRTC staff analysis of the 1,076 decisions the commission has issued during his tenure, he said, showed he had dissented precisely once.

"I wish some of these people would simmer down and stop freaking out," he said. "There are a lot of bucks at stake, I know, but they read far too much into these things."

And, chuckling, he added: "I demand the right—and I say this tongue-in-cheek—to dissent once in every 1,076 cases."

It is conceivable that some of the CRTC's industry constituents may hope Mr Spicer finds himself in a dissenting minority more often.

The former newspaper editor, professor and Official Languages Commissioner has served notice he is out to put more emphasis than his predecessor on the cultural and social objectives in the Broadcasting Act.

Indeed, last week, he repeated a frequent theme: the CRTC's priority after the failure of the Meech Lake accord is "to be one of the agencies that can remind Canadians of the integrating forces and values within Canada."

Mr Spicer also is out to correct a perception—widely held, at least among consumer advocates—that the CRTC is little more than a rubber stamp for industry.

Partly with an eye to balancing the additional power the new broadcasting legislation will give the government, he is trying to win over the public with a series of "town-hall meetings" where he explains what the commission has done and can do for Canadians at large.

And he also plans to emphasize what he calls the commission's "ombudsman role," handling consumer complaints faster and with less hassle.

On the industry front, only cable-TV companies have so far felt the impact of his rebalancing act to any great extent. In May, the commission put the brakes on rate increases and launched a review of their profits, which, Mr Spicer said, were too high.

However, broadcasters and the telephone companies are by no means breathing easily about how they will fare at the hands of a CRTC led by Mr Spicer.

With hundreds of millions of dollars in annual revenue and profit at stake, they have good reason to pay close attention at the best of times.

But the economic slowdown has throttled the broadcasters' advertising-fueled financial performance, leaving several swimming in an unprecedented sea of red ink.

As well, the spectre of cheap satellite-to-home TV service through transborder spillover from Rupert Murdoch's planned U.S.-based 100-channel Sky Cable has alarmed both the broadcasters and cable companies.

And gradually moving to the foreground is the growing convergence between telecommunications and cable and broadcast technologies. This promises more fights of the sort already under way in the long-distance telephone business, where Toronto-based Unitel Communications Ltd. has begun its campaign to break the telephone companies' monopoly.

Mr Spicer is by no means without supporters. Several consumer advocates say he is a breath of fresh air.

And Gerald Caplan, co-chairman of the Caplan-Sauvageau task force on broadcasting and communications whose 1987 report led to the drafting of the new broadcasting bill, is an unabashed fan.

"So far, although the major tests are yet to come, I think he's doing sensational," Mr Caplan said in an interview. "He has had the cable industry screaming for blood in a way that one can only cheer about. ... The fact that the industry has been finding him difficult is only because it was spoiled silly in the Bureau era."

The cable industry appears to have come to grips with the notion that this is a new era that demands a new approach. In July, the Canadian Cable Television Association announced that its veteran chief lobbyist Michael Hind-Smith, who had clashed publicly and loudly with Mr Spicer, would be leaving almost two years before his scheduled retirement.

Led by the smooth and articulate Michael McCabe, the Canadian Association of Broadcasters, main lobbyists for the country's TV and radio station owners, appears to have adapted well to the new regime at the CRTC.

Admittedly, the barons of the air-waves haven't had a major confrontation with Mr Spicer. And the way Mr McCabe is talking, there isn't likely to be one—at least on the TV front. The reason, he said in an interview, is convergence of another sort.

Broadcasters, who have grown fat on the advertising revenues brought in by popular U.S. prime-time shows, now are concluding that in the fast-approaching 100-channel universe of Sky Cable, they will have to be distinct if they are to hold audiences and survive.

They see salvation in what, by happy coincidence, is a key goal of the CRTC: better-quality, prime-time Canadian programming.

But, in the broadcasters' view, this will require the CRTC to change some of the rules.

Mr Spicer leaves no doubt that he is receptive. "The CAB has pretty well educated me to the realities about the cross-subsidizing of Canadian shows by (revenues from) U.S. shows. The only issue now is what are the proportions and how can we channel that money into good shows Canadians want to watch."

## GERMANY

### Satellite Bridge Links Telephone Systems

90GE0286A Munich SUEDDEUTSCHE ZEITUNG  
in German 4 Sep 90 p 23

[Report by hen: "TELEKOM Builds Satellite Bridge to The GDR"]

[Text] Starting last Monday, the German Bundespost TELEKOM is now able to provide the GDR with short-term, satellite-assisted telephone and data communications links to the West German communications network by way of the new telecommunications satellite, Copernicus 2, to meet the economy's most urgent communications needs. In the estimate of TELEKOM head Helmut Ricke, the parallel expansion of the telecommunications network taking place in the GDR will bring about a noticeable improvement in communications in the foreseeable future in a unified Germany.

Both Ricke and Gerhard Tenzer, who is the board member in charge of satellites and networks, underscored that the links via Copernicus 2 represented primarily an ad-hoc solution to the immediate transmission needs of companies in the GDR. In the medium term it would be possible to shift this traffic to a large extent to the expanded land links between East Germany and West Germany. As an immediate service, which is of interest only to medium-sized and large companies

because of the high monthly basic rates of several thousand D-Marks, TELEKOM has been offering since Monday the satellite services DIVA, DAVIT and DASAT, which are specially tailored to the GDR's needs, allowing telephone conversations, data transmission, and a combination of telephone conversations and data exchange. When the transmission line was opened on Monday, there were already 40 companies in the GDR hooked up with the West German telephone and data network.

Independently of the short-term temporary measures to furnish communications links from the GDR using satellites and mobile telephones, Tenzer emphasized that TELEKOM would push ahead energetically with the broad expansion of the network in the area of the present GDR. Investments totaling as high as DM55 billion were being set aside in the long-term plan, TELEKOM 2000. Considering the long time requirement for the expansion of overland networks, it would take at least 10 years until a telephone installation density was achieved in the GDR comparable to the one that currently exists in the FRG. There would be a considerable improvement in telephone traffic at a much earlier time, because in the current year alone about 100,000 new telephones would be installed in the GDR. In the coming year plans called for another 300,000. By 1997 annual growth rates of up to 1.5 million new units could be anticipated. For the present, the expansion of a new long distance network (what is known as the overlay network) was of particular urgency, using the most modern digital technology as the basis for a matching expansion of the local network. Independently of that, TELEKOM was utilizing every possibility within the existing networks. The attempt was being made at the present time to decentralize the intra-German links, which have all been routed through East Berlin until now, and, increasingly, to set up direct connections between regional sites with heavy demand in the GDR and in the FRG. In the middle of next year new telephone exchanges are to begin operation in Dresden, Chemnitz, Leipzig, Neubrandenburg, Rostock, and Erfurt. In a second phase, the new overlay network will be expanded to all the bezirk and key cities in today's GDR. The demand for private telephone calls could only be met initially by providing rapid area coverage using public telephone booths, in which—as already in Leipzig now—modern card-operated telephones would be installed. Both Tenzer and Ricke expressed their conviction to journalists in Bonn that one of the most modern communications networks in the world would be in operation in the present GDR by the end of the 1990's.

Tenzer did not venture any prognosis as to when there would be standardized rate structures in communications in a unified Germany. The creation of a new system of local area codes would be an important step in this direction, which could be anticipated before the end of 1992. Standardization of the rate structures would not be a necessary condition. Tenzer is not expecting any serious problems in conjunction with the organizational

blending of the two central offices of TELEKOM East and West. The 226 employees in East Berlin could be suitably employed in TELEKOM's regional areas.

#### Intra-German Telecommunications Projects Viewed

90GE0277A East Berlin AUSSENWIRTSCHAFT  
in German 15 Aug 90 pp 26-28

[Unattributed article: "German-German Projects Take Form"]

[Text] The goals defined by Dr. Emil Schnell, GDR minister for post and telecommunications, and by Dr Christian Schwarz-Schilling, federal minister for post and telecommunications, are:

- To establish a high-capacity telecommunications network on the territory of the GDR by 1997;
- To standardize fundamental principles regarding structural and regulatory policy; and
- To create a unified postal and telecommunications system in the process of the unification of the two German states.

The structure of the GDR postal system had already been adapted to that of the FRG on 8 May of this year. Thus, there is an Executive Board for Postal Services, Postal Banking, and Telecommunications within the Ministry for Post and Telecommunications—the latter being sovereign in the performance of its functions. Accordingly, projects are classified according to these [three] categories.

#### Bundespost Grants Loan

The total amount of investment required for the construction of a modern telecommunications infrastructure in the GDR is put at DM55 billion. In the view of the two postal ministers, a prerequisite for the financing of this program is reform of the fee structure in the GDR.

As Schwarz-Schilling testified before the federal cabinet on 30 June 1990, approximately DM30 billion is to be acquired directly on the capital market, and indirectly by way of a loan from the Deutsche Bundespost's [FRG postal system, DBP] TELEKOM (DBP TELEKOM) [Telecommunications Division]. On 9 May of this year, TELEKOM's supervisory board approved a loan of more than DM2 billion to the GDR's postal system for 1990-1991. The most pressing problems in the field of telecommunications are to be addressed with this sum.

Furthermore, DBP TELEKOM is expected to undertake investments amounting to DM110 million in the GDR in 1990. As the minister further informed the cabinet, DM540 million have been included in the GDR Deutsche Post's [GDR postal system] planning for this year. The Bundespost is supporting these investments with a loan in the amount of DM240 million.

#### "Crash Program Telekom 2000" Begun

In early July of this year at a joint press conference with DBP TELEKOM, Dr. Heinz Uhlig, director of GDR Telekom's [Telecommunications Division of the Deutsche Post] supervisory board, commented on the so-called Crash Program Telekom 2000. Raising the level of telecommunications services to a par with that of the Bundespost—as called for by the plan—would require the following installations by 1997:

- 7.1 million telephone connections;
- 60,000 public-access telephone stations;
- 100,000 data transmission connections;
- 6,000 teletype connections;
- 300,000 mobile radiotelephone connections; and
- 2.2 million CATV [common antenna television/cable television] network connections.

#### Investment Priorities for 1990

	In Millions of DM
By the GDR Deutsche Post	540
Overlay fiber optic network	250
Local network (predominately telephone)	150
Data network	20
CATV network	25
Television network	12
Card telephones	25
Construction	10
Equipment for telecommunications construction projects	48
By DBP TELEKOM in the GDR	110

**Investment Priorities for 1990 (Continued)**

	<b>In Millions of DM</b>
C-Network (mobile radiotelephone/car phone)	60
City Call/trunk group radio	12
Satellite signal distribution stations	18
Dedicated TV reporting circuits	10
Dedicated subscriber circuits/extension circuits	10

*Source: Federal Ministry for Post and Telecommunications*

Features of the program are:

- Comprehensive use of fiber optic technology for the provision of the most diverse telecommunication services—both for long-distance telecommunications in connection with efficient digital transmission systems (PCM [pulse code modulation] technology) and in the local network, to include the end-subscriber;
- The use of digital exchange equipment to connect new subscribers and simultaneously to introduce new performance standards and services.

Implementation of the new program began with immediate measures for 1990. They are in full swing, according to Uhlig. In particular, they include the improvement of telephone traffic with the FRG. Accordingly, the network is to be expanded by the end of the year as follows:

- An increase in DDR-to-FRG circuits from 111 to 1,249;
- An increase in FRG-to-GDR circuits from 690 to 1,494;
- An increase in GDR-to-West Berlin circuits from 95 to 429; and
- An increase in West Berlin-to-GDR circuits from 565 to 1,076.

In addition, Uhlig announced that an information and consultation center<sup>1</sup> will be set up to provide GDR companies and establishments with efficient solutions for communications with partner companies.

"Telekom 2000" priorities for the period up to late 1991/early 1992 are:

—The construction and bringing into service of an international digital telephone exchange in Berlin for a significant improvement of the GDR's worldwide telephone traffic;

—Implementation of the first stage of a digital telephone network in nine large cities in the GDR based on digital trunk and local area exchanges as well as radio and fiber optic links;

—Installation of 400,000 telephone connections—100,000 of them this year. In addition, plans call for the expansion of the public-access network by approximately 8,000 public-access telephone stations by the end of next year. From 1991 on, about every other telephone installed will be a card telephone;

—Bringing into service Datex-P network nodes with 4,000 connections. According to an announcement of the Ministry for Post and Telecommunications, the first data connections should be ready for operation as early as the beginning of this month. Accordingly, the Telecom supervisory board of the Deutsche Post requests customers who would like to utilize the data service to submit an application for communications equipment to the appropriate registration office as soon as possible.

—The provision of mobile radio services to the aggregate area of the GDR. In the current situation with regard to communications in the GDR, mobile radio services are particularly important. Preference is being given here to radiotelephones that can be used as a car phones or cordless telephones. To meet the increased demands for this technology, the establishment of the "C" Radiotelephone Network was decided upon. The goal is to provide service to all transit routes and essential economic areas by the end of 1991. As an example of this, the new "Greater Berlin" small-cell network will go into operation by the end of this year. Some 32 transmission locations and thus about 400 voice channels will be available as a result. In addition, included among the projects in the area of mobile radio are:

—Commencement of operation of the City Call Service in Leipzig and Berlin in 1990, as well as the establishment of a further 11 transmission zones by the end of 1991. City Call permits the transmission and reception of tone signals, numbers, or short texts using devices the size of credit cards. In the GDR, the requisite receiving devices are offered by the Deutsche Post. A 24-hour call-in service has been established in Leipzig that accepts messages and transmits them directly as radio calls. Additional expansion stages will permit such calls to be transmitted via the telephone network by way of the direct-dial telephone service.

—Introduction of the "Chekker" public trunk group radio system by the end of this year in Berlin, and the provision of this service to important economic areas such as Dresden, Halle, Magdeburg, and Rostock by

the end of 1991. "Chekker" represents a further development of the traditional utility radio system. The new technology permits the rapid and individual provision of entire economic areas with a small number of radio channels. It is particularly suited to commercial, transportation, and skilled trade enterprises.

—The establishment of satellite links for data communications. The latter are regarded by the GDR's Telecom supervisory board and DBP TELEKOM as transitional solutions and are intended almost exclusively for the intensification of trade contacts. Thus, "DAVID" is to serve for data distribution between a central terminal and numerous small subscribers; "DIVA" will permit, in addition to data transmission, voice conversations via satellite between two locations; and "INMARSAT" provides standard-quality telephone and teletype traffic primarily for marine and aviation communications.

#### New Services From the Postal System As Well

In mid-May of this year, State Secretary Hans-Juergen Niehof of the GDR Ministry for Post and Telecommunications, and the chairman of the board of directors of the Bundespost's POSTDIENST [Mail Service Division], signed two agreements that include measures intended to bring about the structural, operational, and financial union of the two German states' postal systems. An operating committee, staffed on a parity basis, will direct all operations in the future. At the same time, further cooperation for the purpose of providing optimal mail services to customers in both parts of Germany was agreed upon. It was announced that about DM100 million of Deutsche Post's own funds as well as DM175 million from the Bundespost would be used to considerably improve the more than unsatisfactory letter and parcel service.

To rapidly improve efficiency, about 500 additional transport vehicles, freight-handling equipment, and delivery bags will be put into service immediately—something that will require investments of approximately DM50 million. For the long term, the construction of 18 central post offices and the equipping of 12,000 existing post offices with new technology is planned. At the same time, according to Minister Schnell, the postal system must expand the range of the services it offers in order to remain competitive.

Since 1 July of this year, the postal system has been offering its so-called data mail service for mail service in the GDR and to the FRG. Letters and packages sent by data mail—aside from bulky goods—are either delivered by messenger for a fee or are held at the point of destination for pickup by not later than the working day following the day on which they were handed in. This service can be used by any citizen at rates which cover handling costs, provided a post office for data mail service is available to him. Similarly, COD [cash on delivery] service between the GDR Deutsche Post and

the Bundespost was begun in early July. The domestic rates of the dispatching postal administration apply for this service.

In the field of GDR postal banking, estimates of investments for operational infrastructure—such as electronic data processing equipment in the postal bank offices—come to DM45 million. To a great extent, the GDR Postal Bank will assume the organizational form of the Bundespost's POSTBANK [Postal Bank] for the present. Technical assistance for this has already been agreed to.

#### Constitutional Law On Postal Matters Soon Applicable in the GDR

At a joint press conference, both ministers unanimously advocated the gradual application of the principles regarding regulatory policy and organizational matters contained in the Law On the Structure of the Postal System to the GDR's post and telecommunications system. In this regard, Minister for Post and Telecommunications Schnell stated: "The GDR Deutsche Post will give priority to building up the special fund so that at the time of national unification, this measure, necessary for economic rehabilitation, will have been completed and the Constitutional Law On Postal Matters can be applied without difficulty." Schwarz-Schilling added: "We will proceed full steam ahead with defining a common approach regarding relations with CEMA and the EC and in regard to integration into the EC. In particular, preconditions for an expansion of the EC domestic market into the area of postal and telecommunications facilities must be created."

#### Real Opportunities for Small Business and Joint Ventures

In the opinion of Minister for Post and Telecommunications Schnell, the implementation of the telecommunications projects will create great opportunities for small and mid-size business. He is referring in particular to the required investments amounting to DM20 billion in the area of installation and construction and is of the opinion that small and mid-size skilled trade enterprises in the fields of electrical work and excavation with operations limited to a local region will profit in particular from this program. Some 4,000 engineers will be required just to complete the design work. In addition, streets in all cities and municipalities will have to be dug up to lay cables.

In regard to the awarding of contracts to foreign companies, the minister said: "Firms which are prepared to establish joint ventures with the GDR Deutsche Post, to guarantee jobs, and to undertake technology and know-how transfer to the GDR, will get contracts. Thus far, large-scale contracts for more than DM80 million have been let. As part of this, the Siemens Company received a contract for the construction of an overlay (trunk) network, as well as local and trunk exchanges in Dresden, Zwickau, Chemnitz, Neubrandenburg, Rostock, and Strausberg which involve a total of 30,000 subscriber and trunk line connections using ESWD [digital

electronic switching] technology. Moreover, Siemens will supply radio link equipment and fiber optic technology systems for the Berlin-Schwerin segment of the new network. Because of the sudden increase in demand for copper and fiber optic cable for use in telephone systems for the years up to 1995, KWO Kabel AG has announced a production increase of 70 percent.

There is also a series of interesting projects for joint ventures, collaboration, and know-how transfer. Included among these is the founding of the joint venture RFT SEL Communications Electronics GmbH<sup>2</sup> by Standard Electric Lorenz (SEL) and enterprises of the former telecommunications electronics kombinat [RFT=Radio Telecommunications Technology]. This company, which began full-scale business operations on 1 July 1990, will be active in the GDR television market on a large scale beginning in 1991. The range of products offered by RFT SEL will include the full range of SEL products in addition to RFT systems. Already this year, SEL will supply 14 container tracking and dispatching stations to the Deutsche Post.

Leipzig Communications GmbH will begin production of communications systems in November using Siemens know-how. It is planned that by the end of this year, an initial run of 2,000 copies of the "Hicom 100" system, which is designed for a maximum of 50 telephone subscribers and is PC-compatible, will have been completed.

ANT Communications Technology GmbH, Bagnang, has received a contract for the construction of a radio-telephone transmission link. As a part of this project, ANT, in close cooperation with Robotron, will establish 4,000 telephone channels in the initial construction phase to be routed from Schwerin to Erfurt via Rostock, Berlin, and Leipzig. This directional radio network is to go into operation in April of next year. A contract has already been awarded to PKI/Nuremberg for the construction of wideband transmission links. Specifically, multiplexing technology, transmission technology, and fiber optic feeder links to trunk exchanges in Chemnitz, Zwickau, and Erfurt will be used.

It has been announced that the Philips group will supply the multiplexing equipment for the trunk exchanges in Dresden. Production of the components, equipment, and systems is to be done in close cooperation with Bautzen Telecommunications Works. West Berlin's Krone AG will also be active in the GDR. Jointly with Nordhausen Telecommunications Works, it plans to supply telephone sets to the Deutsche Post. Plans call for 360,000 to be supplied this year. Both firms also intend to establish a joint venture company.

#### Footnotes

1. Can be contacted at 1020 Berlin, Klosterstrasse 62, or by telephone at (Berlin) 23 30.

2. We will report at length on this joint venture company in one of our future editions.

#### ARD To Transmit Programs via Astra Satellite

AU2809160090 Frankfurt/Main FRANKFURTER ALLGEMEINE in German 28 Sep 90 p 17

[{"schu" report: "ARD To Transmit Programs via Astra Satellite"]

[Text] Frankfurt, 27 September—The First German Television ARD, a public institution, has made an agreement with the private Luxembourg satellite operating company Societe Europeenne des Satellites (SES) on the use of a transponder on an "Astra" medium-power satellite. The channel will probably be available on the twin satellite Astra 1 B in January 1991. This is the first agreement that has been concluded for the "brother" of "Astra 1 A." The contract does not stipulate which programs ARD intends to transmit. However, on Wednesday [26 September] ARD announced that it will not remove the satellite program "ARD-1-plus" from the German satellite TV-Sat 2. The German Post Office announced recently that the public television companies plan to air their main programs via the satellite TV-Sat, which belongs to the German Post office. The television stations denied this. On behalf of SES, General Manager Meyrat stated that the conclusion of the contract with the biggest European public television station, ARD, is a "most convincing endorsement" for the private satellite syndicate.

#### MALTA

#### Malta Inaugurates Cellular Network

90AN0413 Chichester TELEFACTS in English Jul 90 p 1

[Text] The Prime Minister of Malta, Dr. E. Fenech Adami B.A., LL.D., M.P., officially opened the Telecell cellular radio network, providing a mobile telephone service throughout the Maltese Islands.

The service is operated by Telecell Ltd, a company owned by Racal Telecom Plc (80 percent) and Telemalta (20 percent).

Mr. Gerry Whent CBE, chief executive of Racal Telecom Plc said that this was the first overseas joint venture for the company.

The network, installed in a little over 15 months, operates in the 900 MHz band to the United Kingdom ETACS specification, which allows compatibility with the Italian and Spanish cellular radio networks. In addition to providing total coverage for the islands of Malta, Gozo and Comino, the Telecell network extends to inshore services along the coast of Malta.

## SWEDEN

### Telecommunications Agency Chief Wants To Privatize

90WT0157A Stockholm DAGENS NYHETER  
in Swedish 21 Sep 90 p C 1

[Article by Thomas Lerner and Thorbjorn Spangs: "National Telecommunications Authority Being Privatized"—first paragraph is DAGENS NYHETER introduction]

[Text] Tony Hagstrom wants quick decisions on a gigantic stock market introduction in 1992.

Tony Hagstrom, CEO of the National Telecommunications Authority, wants to privatize the telecommunications company. If his controversial idea meets with approval, it will mean a gigantic stock market introduction. In all, it is a question of 40-50 billion kronor.

Furthermore, if the government and parliament can make their decisions rapidly, Tony Hagstrom hopes that the state-owned telecommunications company might be introduced on the stock market as early as the beginning of 1992.

Hagstrom brought up the plans for privatizing the telecommunications company, which has close to 50,000 employees, at a board meeting last Wednesday and Thursday. The board has already approved the idea and has asked Hagstrom to produce concrete suggestions at the next meeting which takes place in December.

### Anticipates

Today, Friday, the employees of the telecommunications company will receive information about the great changes that seem to be in store. Moreover, additional details will be given to the mass media at a press conference.

At the request of the government, the chief of the National Telecommunications Authority, Tony Hagstrom, has, since last May, been making a high-speed investigation of how the state can come up with "fresh" money for the billion kronor investments that will be required during the 1990's.

It is a question of refurbishing roads, bridges, railroads and telecommunications networks. The investigation is expected to be done by the beginning of October, but by launching the idea of making a gigantic market introduction of the entire telecommunications company now, Hagstrom is anticipating his own report.

If his plans are successful, the telecommunications company stock will be the most widespread, second only to the insurance company Trygg-Hansa which was introduced last year.

### Quick Decision

Uno Gronqvist, information chief at the National Telecommunications Authority, told the DAGENS NYHETER (DN) that the telecommunications company is well prepared for an introduction on the Stockholm exchange.

"Now Tony Hagstrom wants the politicians to make a rapid decision."

During the first phase, according to Uno Gronqvist, it is a question of getting pension funds, social security funds, insurance companies and other large institutional investors to go in as shareholders in the "new" Telecommunications Authority. Later the general public will be offered the same opportunity.

The DN has tried to reach Tony Hagstrom without success. Other members of the board do not want to comment, they refer instead to the information that will be given to the employees on Friday.

### 50,000 Employees

In all, the telecommunications company has close to 50,000 employees, of which 6,000 are working in the separate Teleinvest Group.

Last year, that company had 27 billion kronor in sales and netted around 3.5 billion kronor.

The Teleinvest Group, which has revenue of over 6.5 billion kronor, is active in several business areas. Among other things, it manufactures telephones and other telecommunications equipment (Teli), does consulting (Swedtel) and handles financial activities (Telefinans).

### Selling Parts

If the government does not want to go all the way with Tony Hagstrom, it will still be easy to sell all or part of Teleinvest fairly rapidly.

Last Thursday, the DN reported that a group of economists wants to sell several wellknown state-owned companies with a total value of 200 billion kronor. Teleinvest, which is valued at 4 billion kronor, is included among the group's suggestions.

Tony Hagstrom's ideas are in line with the group's thinking.

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